

**WHAT IS CLAIMED IS:**

1. A tube clamp apparatus which presses to hold a flexible tube in a flat state, comprising:

a placement clamp section at which the tube is placed;

a movable clamp section which is movable in a direction of pressing the tube which is placed at the placement clamp section and in a direction of separating from the tube; and

a hook section which is set up at the movable clamp section and which engages the placement clamp section to maintain a pressing state of the movable clamp section against the tube,

wherein the hook section has a plurality of divided hook portions, and wherein at least one of the hook portions has a protruded portion which protrudes toward one side thereof than other hook portions and is made of an elastic member which maintains engagement with the placement clamp section.

2. A tube clamp apparatus according to claim 1, wherein the elastic member is made of resin having a flexure property of bending so as to change its self-shape according to external pressure.

3. A tube clamp apparatus according to claim 1, wherein the hook section is divided into plural pieces in a direction orthogonal to a longitudinal direction of the tube placed at the placement clamp section, and wherein another side of the elastic member is fixed to the hook section.

4. A tube clamp apparatus according to claim 3, wherein the elastic member is disposed at a center of the hook portions which are provided parallel, and wherein a material of the other hook portions is made of metal.

5. A tube clamp apparatus according to claim 3, wherein the placement clamp section has an engagement member which engages the protruded portion of the elastic member, and wherein a material of the engagement member is made of resin.

6. A tube clamp apparatus according to claim 5, wherein the engagement member is a rotatable roller, and wherein the protruded portion of the elastic member slides to contact a circumferential surface of the roller to be located to an engagement maintaining position at which the protruded portion maintains engagement with the roller.

7. A tube clamp apparatus according to claim 5, wherein the elastic member is set such that reaction force caused at a time of elastic deformation against external force is smaller than pressing force of the hook portions due to the hook section when the movable clamp section presses the tube to a flat state and is larger than or equal to load force against the protruded portion of the engagement member.

8. A tube connecting apparatus which connects flexible tubes each other, comprising:

a holding unit having a placement clamp section at which the tube is placed, a movable clamp section which is movable in a direction of pressing the tube which is placed at the placement clamp section and in a direction of separating from the tube, and a hook section which is set up at the movable clamp section and which engages the placement clamp section to maintain a pressing state of the movable clamp section against the tube;

a cutting unit which cuts the tubes held in a flat state by the holding unit; and

a movement unit which moves the holding unit to change relatively positions of the tubes cut by the cutting unit such that end portions to be connected face each other,

wherein the holding unit has a plurality of divided hook portions at the hook section, and wherein at least one of the hook portions has a protruded portion which protrudes toward one side thereof than other hook portions and is made of an elastic member which maintains engagement with the placement clamp section.

9. A tube connecting apparatus according to claim 8, wherein the holding unit has a first holding section and a second holding section which are disposed along a longitudinal direction of the tubes placed at the placement clamp section, and wherein the cutting unit cuts the tubes between the first holding section and the second holding section.

10. A tube connecting apparatus according to claim 9, wherein the movement unit moves at least one of the first holding section and the second holding section in a direction of the longitudinal direction of the tubes placed at the placement clamp section and in a direction orthogonal to the tubes.

11. A tube connecting apparatus according to claim 10, wherein the elastic member is made of resin having a flexure property of bending so as to change its self-shape according to external pressure.

12. A tube connecting apparatus according to claim 11, wherein the elastic member is disposed at a center of the hook portions which are provided parallel, and wherein a material of the other hook portions is made of metal.